

REVISION OF THE AUSTRALIAN SPECIES OF
ADELIMUM.

BY H. J. CARTER, B.A., F.E.S.

(Plate iii.)

Since 1862 when Blessig wrote his admirably succinct paper* on Australian Heteromera, nothing has been done towards a systematic review of the large genus *Adelium*. Blessig had then fifteen species to consider. Excluding New Zealand and Island species, those described have increased to eighty, of which many are identified in Australian museums. Having collected a large number of these insects myself, and with the material and information kindly supplied by other Australian entomologists, amongst whom I would especially mention Messrs. Lea, Blackburn, Sloane and French, I have ventured to hope that this imperfect monograph will be of some assistance towards a better knowledge of the relation and classification of this genus. The opportunity of a visit to the Museums of Brussels, Paris, and especially to the Natural History Museum of London, has enabled me to further verify my identification of species by a comparison of my collection with types. I take this opportunity of expressing my obligations to Mr. C. O. Waterhouse and Mr. C. J. Gahan for their courtesy and kindly assistance at the last-mentioned Institution.

The Heteromerous insects known under the generic term *Adelium* are widely distributed over Australia. It is probable some of them will be found wherever there is sufficient moisture and soil to produce timber on that Continent. It is doubtful if a true *Adelium* has yet been found outside Australia (including

* Hor. Soc. Ent. Ross.

Tasmania), the so-called *Adelium* from New Zealand and New Caledonia having markedly different characters. So far back as 1866 this was pointed out by Pascoe* when he formed the genus *Pheloneis* for the reception of *A. harpaloides* White; at the same time also he separated *Seirottrana* and *Coripera* from the true *Adelium*. All three of these genera are differentiated from *Adelium* by the character "Elytra prothoraci arcte applicata," while *Pheloneis* has the further distinction in "antennæ articulis apicalibus, ultimo excepto, transversis," and "tarsi antici et intermedii articulis, ultimo excepto, plus minusve latioribus, et triangulariter transversis." Considering therefore that *Seirottrana* and *Coripera* are generally held by entomologists (I consider rightly) as good genera (although the Munich Catalogue made the mistake of confounding *Coripera* with *Pseudhelops*; and the Supplementary Catalogue of Mr. G. C. Champion again merges *Seirottrana* with *Adelium*) it is difficult to understand why Bates should rename *Pheloneis harpaloides* as an *Adelium*† without giving sufficient, or any, reason except that "Adelium is evidently a polymorphous genus."

Even if the genus *Pheloneis* be not accepted, as in my opinion it should be, the New Zealand insects are much nearer *Seirottrana* or *Coripera* than *Adelium*; while one species, *A. aucklandensis* Broun, seems to be very near *Licinoma*. While in New Zealand I captured some ten species of so-called Adelia, and identified them from Captain Broun's excellent Catalogue.

Blessig's memoir has supplied another character which is an additional aid in the separation of Pascoe's genera from *Adelium*, namely in the posterior intercoxal process being "abruptly truncate." In some of the New Zealand insects there is some modification of this, e.g., *A. nigrifulum* Broun, and *A. indagator* Broun, have this process moderately truncate (i.e., truncate with slightly rounded angles), but in the narrow epipleuræ, in the position and structure of the coxæ, and in the elytral sculpture

* Journ. of Ent. ii. p.483.

† Ann. Mag. Nat. Hist. 1874, Vol.xii. p.32.

these species show some affinity to *Coripera*. The shortness of the antennæ, especially of the third joint, together with their subtriangular form mark a strong departure from the Australian *Adelia*. It is for New Zealand or British entomologists to decide as to whether the genus *Pheloneis* be finally accepted, but enough has been said to show a strong combination of characters which would prevent the so-called *Adelia* of New Zealand from inclusion with the true *Adelia* of Australia. From an examination of the Bates Collection in the British Museum, I would exclude also the New Caledonian *Adelia*, all of which are expressly described as having "the base [of prothorax] closely applied to the base of the elytra," besides having the prosternal process, mesosternum, and trisinate base of prothorax quite different from any Australian *Adelium*. For the New Caledonian insects I would therefore suggest the name *Neoadelium* as applicable to *A. nigro-ceneum* Bates, *A. fairmairei* Bates, *A. marginatum* Bates, and *A. externocostatum* Bates, *A. caledonicum* (Auct.?), *A. pustulosum* Fauv., (the last two unrecorded in the Munich Cat.; and the last nom. præocc.).

Stridulation.—A character hitherto unrecorded in *Adelium* is their power of stridulation. Mr. Sharp in the Cambridge Natural History (Part ii. p.264) records that in *Praogena* the under surface of the head has the gular region striate for this purpose, and adds "This is the only case in all the Tenebrionidæ in which any sound-producing organ has been discovered." In the common Sydney species *A. calosomoides* (or *geniale*?) a stridulation is very marked. Mr. C. J. Gahan, an authority on this subject as his excellent paper* shows, dissected several specimens of *Adelia* in my presence, and showed the stridulating organs to be oblique files or raised ridges near the apex of the upper surface of the abdomen. These were present in the following species:—*A. geniale* (or *calosomoides*), *A. auratum*, *A. plicigerum* and *A. licinoides*, but were absent from *A. porcatum* and *A. striatum*. I have noticed a similar, or even louder, stridulation when taking

* Trans. Ent. Soc. Lond. 1900, p.433.

Apasis howitti Pasc., on Mount Macedon, and *A. puncticeps* Lea, on Mount Kosciusko, forms closely allied to *Adelimum*.

Variation.—I have below referred to varieties in the species *A. calosomoides* Kirby. The same remarks apply to other species which have a wide range, as *A. brevicorne*, *A. porcatum*, *A. plicigerum*, *A. auratum*. In such cases a distinct species is to be considered as one which shows a more or less constant combination of characters, each of which may be subject to some variation. On the other hand, where two species described as different show only one or even two variations, I have considered them as local varieties. Thus I consider *A. virescens* Boisd. = *A. brevicorne* Blessig = *A. neophyta* Pasc., to be extraordinarily variable in colour and size; and I have specimens from the north of New South Wales, Victoria and South Australia which vary in colour from bronze to nearly black (Blessig especially mentions a black variety known as *A. sphaeroides*), and in size from $8\cdot5 \times 3\cdot5$ to 11×5 mm. *A. plicigerum* Pasc., only differs from *A. rugosicolle* Macl., in having its pronotum less coarsely rugose, and very slightly in colour. Another difficult and unsatisfactory character for differentiation of species is the foliation of the prothorax. In *Adelia* generally where such foliation exists it is rarely separated from the disc by a distinct division as in *Cardiothorax*, and frequently the sculpture of the discal lobes is continued without break to the sides. In common species like *A. calosomoides* a dozen specimens captured together will present every variation of this character, from widely explanate border to a specimen which shows very slight foliation.

The most reliable characters appear to be—(1) The form and length of antennæ, especially that of the third joint; (2) form and sculpture of prothorax and elytra; (3) what Blessig describes as the “intercoxal process,” a disc forming the anterior portion of the first abdominal segment between the posterior coxæ. Other determining factors are size, colour, clothing, form of tibiæ, tarsi, epipleuræ, eyes and oral organs.

Sexual variations.—The following, though by no means constant, are the normal variations in the sexes:—(1) Male narrower

and generally smaller than female. (2) Male with tarsi, especially anterior tarsi, more dilate. (3) Antennæ of male proportionally longer than in female.

History.—Kirby, in 1817, founded the genus *Adelium* for the reception of three insects, *A. calosomoides*, *A. licinoides* and *A. caraboides*, of which the last had already been described as *Calosoma porcatum* by Fabricius in 1774. As to *A. calosomoides*, I shall refer to this species later. *A. licinoides* = *A. cisteloides* Erichs., according to Champion.* This species has a wide range in Victoria and Tasmania.

In 1835, Boisduval (*Voyage de l'Astrolabe*) added six species, *A. abbreviatum*, *A. harpaloides*, *A. helopioides*, *A. punctipenne*, *A. rugicolle* and *A. virescens*.

A. abbreviatum Boisd. = *A. impressum* Blanch., is a common Tasmanian insect, whose identity has been preserved by Blessig.

A. harpaloides Boisd.—Two specimens marked "Coll. Dejean" are in the Bates Coll. in the British Museum, and exactly correspond to *A. calosomoides* Kirby, except in being smaller. This species must not be confounded with *A. harpaloides* White, from New Zealand = *Pheloneis harpaloides* Pasc. = *A. amaroides* Bates. †

A. helopioides Boisd. = *A. licinoides* Kirby, in the opinion of Pascoe.

A. virescens Boisd.—In the British Museum a number of specimens labelled *A. virescens* are placed as synonymous with *A. brevicorne* Blessig, and *A. neophyta* Pasc. I saw the same species marked *A. virescens* Boisd., in the Brussels Museum.

A. punctipenne and *A. rugicolle* Boisd., are quite unknown to me, and as with all Boisduval's descriptions, they are entirely inadequate for identification, especially in the absence of measurements and localities of capture.

Castelnau added one species, *A. angulicolle*, which has a wide range in New South Wales and Victoria. I have specimens from Wagga, N. S. W., and near Melbourne, Vic. Though I

* Trans. Ent. Soc. Lond. 1894.

† Ann. Mag. Nat. Hist. Ser. 4, Vol. xii. p. 32.

have not seen the type, it is the most easily recognised of all the genus, and is well known in all collections, besides being figured by Blessig.

In 1842, Erichson described *A. elongatum*, *A. tenebrioides* and *A. cisteloides*.

A. elongatum Erichs.—If my identification be correct—and my specimens (taken at Launceston, Tas.) agree with those named as above in the Macleay Museum—this should be referred to *Seirotana* as the description of Erichson certainly warrants.

A. tenebrioides Erichs.—No authoritatively named specimens are to be found in the Sydney museums. The specimens labelled *A. tenebrioides* in the Macleay Museum are certainly wrongly identified.* In the British Museum I found one specimen labelled “Compared with type by Dr. Haag,” which exactly corresponds with specimens I have seen from the Dandenong Ranges, Vic., and from King Island, Tas. It differs from *A. similatum* Germ., in its narrow prothorax, and more elongate depressed form.

A. cisteloides Erichs. = *A. licinoides* Kirby, *vide* Champion. †

In 1845 Blanchard described *A. carinatum* and *A. impressum*, of which the latter is identical with *A. abbreviatum* Boisd., ‡ while the former is a mystery of the past, whose identity I have been able to trace only by the following note:—“M. Blanchard (Hist. Nat. d. Ins. ii. p.35) a fondé en peu de mots un genre Tropicodotus, qu’il place à la suite des Adelium, et auquel il donne pour type une espèce de l’Australie, soi-disant décrite par M. Boisduval, sous le nom de carinatus. Mais il n’existe dans la ‘Faune de l’Océanie’ de cet auteur, qu’un seul insecte qui porte ce nom, et c’est un Curculionide du genre Amycterus” (Lacordaire, Gen. Col. v).

In 1848 Germar described *A. similatum*; and, in 1861, Blessig described *A. brevicorne* in his able monograph on the genus.

* Since rectified [June 9th].

† Trans. Ent. Soc. Lond. 1894.

‡ Blessig, Hor. Soc. Ent. Ross. 1862.

While *A. simulatum* was originally described from Adelaide, it is also a common Victorian species. I have specimens from Adelaide, Gisborne, and Mallee District, Vic., (see also Blackburn, Proc. Linn. Soc. N. S. Wales, 1891, p.535).

A. brevicorne Blessig = *A. neophyta* Pasc. = *A. virescens* Boisd.? (*fide* Champion, Trans. Ent. Soc. Lond. 1894, p.404).

Mr. Champion has pointed out the synonymy of *A. neophyta* with *A. brevicorne* Blessig. I have given above the evidence for considering *A. virescens* Boisd., as identical with these. If this synonymy should stand, it would give *A. virescens* precedence. I consider that for the present the name *A. brevicorne* should remain, since of *A. virescens* it may be said that the name is misleading, the description futile, and the identity uncertain.

In 1866 Pascoe described eight species, viz., *A. augurale*, *A. auratum*, *A. congestum*, *A. latum*, *A. obesum*, *A. striatum*, *A. succisum* and *A. vicarium*, which he continued in 1869 with the fourteen species *A. aerarium*, *A. ancilla*, *A. commodum*, *A. geniale*, *A. neophyta*, *A. orphana*, *A. pilosum*, *A. plicigerum*, *A. reductum*, *A. repandum*, *A. ruptum*, *A. scutellare*, *A. scytalicum* and *A. steropoides*; and, in 1870, *A. geminatum*. Of these I have examined the types and note the following facts.

A. augurale Pasc., though closely allied to *A. porcatum*, Fabr., differs from that species in its brighter metallic green colour, and in having *all* its raised intervals on the elytra interrupted; in *A. porcatum* there is generally one or more interval nearest the suture uninterrupted. I have taken this species in quantity near Glen Innes, N. S. W.

A. auratum Pasc.—In the British Museum and in many Australian Collections (Macleay and Australian Museums; Mr. Simson's Coll.) are specimens labelled *A. fossulatum* Dupont, which are evidently identical with *A. auratum* Pasc. The name seems to have come from Macleay himself, possibly as an MS. name, but I can nowhere find any description under the name *A. fossulatum*; nor is it included in the Munich Catalogue. This fine species is found in the North Coast region of New South

Wales, and extends at least to Rockhampton, from both of which districts I have specimens.

A. congestum Pasc. = *Seirottrana parallela* Germ., and will be more fully referred to in my notes on *Seirottrana*.

A. latum Pasc.—This appears to me to be only a variety of *A. abbreviatum*, though possessing certain distinctive characters of doubtful specific value (see Champion's note, Trans Ent. Soc. Lond. 1894, p.402). I have two specimens labelled Melbourne. Mr. Champion's specimens were taken by Mr. J. J. Walker at Launceston, Tas. Pascoe's locality was Victoria.

A. obesum Pasc.—Though closely allied to *A. similitum* Germ., the differences are well marked. It is in general larger, more robust, more convex, with the prothorax much more widely rounded at the sides, with a corresponding constriction at the base, than Germar's species. The foliation at the sides is also much more explanate, the sculpture of the pronotum is less rugose, and the elytral intervals more convex, while the punctures in the striæ are more regular. I have several specimens from the Preston Reservoir, Melbourne.

A. striatum Pasc. = *A. viridipenne* MacL.—The largest Australian species and well known in all collections. The tropical form has a greenish tint, hence Macleay's species, but there is no other perceptible difference between them. I have black specimens from Mackay, Q.; also a cotype of Macleay's *viridipenne*, with a specimen that is intermediate in colour between them. These vary in size from 19 to 25 mm. long. There is a large striate form close to *A. striatum* in the Bates Coll., marked with an MS. name of Bates' from the mountains of Tasmania, but this is possibly a mistake of locality.

A. vicarium Pasc., is the common form to be found near Perth, W.A.

A. aerarium Pasc.—The only specimen I have seen of this is the type (unique). It is very close to *A. angurale* Pasc., but is of a brighter green colour, is smoother, and has more parallel sides to the prothorax.

A. ancilla Pasc., is a near ally of *A. nitidum* Carter, from which it differs in its more distinct hind angles to the prothorax *inter alia*. This and the preceding species are labelled Darling Downs, Q., but I have never seen them in nature.

A. commodum Pasc.—A common Tasmanian insect, very Licinoma-like from its narrow and nearly smooth prothorax, scarcely emarginate at the apex. It is in most collections.

A. succisum Pasc., is a synonym of *A. angulicolle* Castel, *vide* Pascoe (Ann. Mag. Nat. Hist. 1869, p.132).

A. geniale Pasc.—I have long been in doubt as to its distinction from *A. calosomoides*. This doubt has been intensified by an examination of the respective types. In Pascoe's notes following the brief description he says *A. geniale* is distinguished from *A. calosomoides* by having elytra *striated* with the same broad outline. I had some trouble in finding Kirby's type in the British Museum, but Mr. Gahan kindly unearthed it from the "Century of Insects Coll." in a separate place, and I was astonished to find that it is *distinctly striated*, and that no specimen marked *geniale* or *calosomoides* in the British Museum or in my own long series had more marked striations. The figure given by Kirby, and presumably copied by Blessig, is thus misleading, as presenting smooth, unstriate elytra. It would appear that Pascoe had not examined Kirby's type when he wrote the above. The pronotum of Kirby's type is also more rugose than any specimens marked *geniale* or *calosomoides* that I could find. In such polymorphous insects as Tenebrionidæ it is unwise to dogmatise, but the evidence is strongly in favour of considering the above two species as merely variations of a very polymorphic species of wide range. The variations consist of (1) great diversity of size, especially in width, and in relation to sex; (2) colour-variation from shining bronze to a discolorous form in which the prothorax is green or green-bronze; (3) variation in the rugosity of pronotum; (4) elytral sculpture from being nearly smooth, *i.e.*, with intervals not raised, to marked striation in which the intervals are subconvex. (In the latter case somewhat raised lines appear towards the apex). It is possible that the greater rugosity of pronotum, and marked

striation of the elytra in this type-specimen of *A. calosomoides* is due to a long immersion in spirits. Mr. Sloane has informed me that Carabidæ that have been long immersed in spirits have had their sculpture so much intensified as to cause frequent mistakes of identification.

A. neophyta is a synonym of *A. brevicorne* Blessig, according to Champion,* an opinion with which I concur. It has the widest range of any *Adelium* that I know. I have taken it in the North-East of New South Wales, Sydney, Victoria, while I have specimens from Adelaide, the locality of Blessig's type. As with all common insects of wide range, it varies greatly in size and colour, the general colour a dark shining bronze varying to black. Blessig specially mentions a black variety known to collectors as *A. sphaeroides*.

A. orphana Pasc.—The type of this is a unique specimen I have never seen elsewhere. It is even narrower and more parallel than *A. commodum*. Yankee Jim Creek, Vic.

A. pilosum Pasc.—I have one specimen from Victoria that corresponds with the type. It is a near ally of *A. scutellare* Pasc., but has its sides of prothorax roundly angulate, which in combination with its pilose clothing and split intercoxal process should separate it from its congeners.

A. plicigerum Pasc. = *A. rugosicolle* Macl. (var.).—My specimens of *A. plicigerum* from Mackay, Q., correspond very well with the type from Queensland. My specimens of *A. rugosicolle* are cotypes kindly given me by Mr. Masters. They only differ slightly in size, and in the greater rugosity of the pronotum of *A. rugosicolle*. The latter is worth noting as a geographical variety. Both differ from *A. auratum* Pasc., in having the prothorax rugose; in *A. auratum* it is smooth; while from *A. lindense* Blackb., it is distinguished by its thinner edge to pronotum *inter alia*.

A. reductum Pasc., a small coppery insect allied to *A. calosomoides* Kirby. I have specimens from Gosford, Wyong, N.S.W.; and Brisbane which correspond to the type.

* Trans. Ent. Soc. Lond. 1894.

A. repandum Pasc. = *Seirottrana repanda*, and will be dealt with under *Seirottrana* later.

A. ruptum Pasc.—I have one specimen from Queensland (I believe from Mackay) which exactly corresponds with Pascoe's type from Victoria. Here again it is possible that some mistake of locality has occurred. This and *A. steropoides* differ from all other *Adelia* known to me in their resemblance to *Apasis*, but they are easily distinguished, *inter se*, by the marked difference in their external sculpture, the striæ being uninterrupted in *A. steropoides*, but broken and somewhat reticulate in *A. ruptum*.

A. scutellare Pasc.—My specimens from Mudgee and Inverell, N S.W., correspond with the type from Darling Downs, Q., a neighbouring locality. Pascoe only notes the pilose clothing on the legs, whereas in fresh specimens the whole upper surface is clothed with hair, so that it closely resembles *A. pilosum* Pasc., but its sides are less angulate, and the sculpture of the pronotum is different.

A. scytalicum Pasc., from West Australia, is readily identified by its smooth pronotum and bicolorous form. A small specimen marked with an MS. name of Bates', from Fremantle, in the Bates Coll., is probably a male of this species, while a larger form from Champion Bay in the same collection, also labelled with an MS. name of Bates', seems to me to be only a variety of *A. scytalicum*.

A. steropoides Pasc.—I have one specimen given to me by Mr. T. G. Sloane, locality uncertain, which exactly corresponds to Pascoe's type from Victoria (see note above on *A. ruptum*).

A. geminatum Pasc. = *A. punctum* Carter.—An examination of the types of these has proved this synonymy. It also proves the fairly wide range of this insect, my specimens coming from Grafton, Bellinger, and the Clarence, N.S.W., whereas *A. geminatum* is described from Wide Bay, Q. Its combination of small size, square form and very distinct sculpture should distinguish it from others.

A. geniculatum Haag-Rut. = *Seirottrana geniculata* Haag-Rut. This will be more fully dealt with under *Seirottrana*.

Macleay has since added *A. convexiusculum*, *A. monilicorne*, *A. panageicolle*, *A. parvulum*, *A. rugicolle* and *A. viridipenne*, described in his 'Insects from Gayndah.'

A. convexiusculum Macl.—I have two cotypes of this species kindly given me by Mr. Masters; a small species of the *A. calosomoides* type, with obsolete hind angles to prothorax, from Gayndah, Q.

A. monilicorne Macl., differs manifestly in the structure of its antennæ, the shape of its eyes, which are nearly round, as seen from above, though not prominent, and in its sculpture, from all *Adelia* known to me. It would seem to me to be nearer *Brycopia* than *Adelium*. There are specimens in the Macleay and Australian Museums, of which the latter probably contains the type, but as is usual with Macleay's types, unmarked as such.

A. panageicolle Macl.—Mr. Masters has generously given me two specimens of this interesting little species, which may have to stand for a type of another genus, from its moniliform antennæ, pilose tarsi, and sculpture and shape of prothorax. The pilose tarsi, however, would place it under *Dystalica*, to which it has the nearest affinity.

A. parvulum Macl.—Specimens in the Macleay and Australian Museums. From its rounded eyes it should be referred to *Brycopia*, though in this respect the character shows some modification.

A. rugosicolle and *A. viridipenne* Macl., have already been noticed above.

Mr. Blackburn has described eleven species, viz, *A. æquale*, *A. alpicola*, *A. angulatum*, *A. ellipticum*, *A. inconspicuum*, *A. lindense*, *A. occidentale*, *A. pustulosum*, *A. simplex*, *A. tropicum* and *A. victoriae*. Through the courtesy of Mr. Blackburn I have been able to examine the types of all except *A. æquale*, *A. simplex* and *A. victoriae*, while Mr. C. French has kindly lent me the type of *A. victoriae*.

A. alpicola Blackb., occurs on Mount Kosciusko, where I have taken it myself, as well as on the Victorian Alps, of which Kosciusko is really a portion. It is certainly of the *A. calosomoides*

type, but considerably larger, and that so consistently that, even if it be considered as a variety of that species, it deserves a special name. I have taken a species very much like it in the Blue Mountains, also under Eucalyptus bark, which I have always considered as a variety of *A. geniale* or *A. calosomoides*, but the antennæ and tarsi are not rufous as *A. alpicola* is characterised; but this is the only definite character, except size, by which I can differentiate *A. alpicola* from *A. calosomoides*.

A. angulatum Blackb.—Mr. Blackburn has kindly given me one specimen as a cotype. It is extremely close to *A. angulicolle* of Castelnau, but differs in its thicker edge to pronotum, its wider explanate margin, especially near the anterior angles, which are much more prominent and reflexed than in Castelnau's species. The puncturation of the pronotum and elytra is also more regular and even, and the intercoxal process is without a carinulate edge.

A. ellipticum Blackb.—I have also a cotype of this species from its author. It is a common species in the Richmond and Clarence River district, easily identified by its brilliant colour and smooth elytra.

A. inconspicuum Blackb., a small species from Kangaroo Island, very close to *A. brevicorne* Blessig, but smaller and more coarsely punctured.

A. lindense Blackb.—I took several specimens of this at Mount Barker, W.A., which do not materially differ from the South Australian specimens I have. While approaching *A. auratum* in size and elytral sculpture, its pronotum is more wrinkled, and its form generally narrower than Pascoe's species.

A. occidentale Blackb., from West Australia, is a fine species strongly differentiated from all others by its large and projecting eyes, punctulate but glabrous pronotum, posterior angles acute and projecting outwards, its regularly striate-punctate elytra and its shining black colour.

A. pustulosum Blackb.—Until I was able to examine the type of *A. victoriae* Blackb., the descriptions of these species led me into much uncertainty as to their identification. Having

examined the types of both species, this doubt has been removed. The combination of differences pointed out in the diagnosis* are sufficient to distinguish these otherwise closely similar forms. The type of *A. victoriae* is apparently male, much mutilated, having only five joints left of one antennæ, the other having disappeared, together with the anterior tarsi and one posterior leg. I have six specimens which I consider identical with *A. victoriae* from Illawarra, N. S.W. (Bulli and Nowra); and eight specimens which I consider identical with *A. pustulosum* from Gisborne and Bullarook Forest, Vic., and Lambing Flat, N.S.W., while specimens from Mittagong, Gunning, and Forest Reef are intermediate forms, having the wider, more explanate and more coarsely sculptured prothorax of *A. pustulosum* with the widely obtuse hind angle of *A. victoriae*. As these last appear to be all female, in the absence of any description of the female, I conclude that they are probably sexual variations of *A. victoriae*.

Champion in 1894 described two species, *A. tasmanicum* and *A. nodulosum*,† whose types I have seen, and whose excellent diagnosis leaves little room for comment.

Lea next added four, *A. capitatum*, *A. heterodoxum*, *A. regulare*, and *A. minutum*,‡ and through Mr. Lea's courtesy I have been able to examine his types.

A. capitatum Lea, is a very distinct form, which I have from Wee Waa, N. S.W., and is apparently widely distributed in the western district of this State.

A. heterodoxum Lea, is also very distinct, though its chief distinction comes from a character omitted in the original description, in that it is clothed throughout, even to the legs, with upright brown pile. While in general form and in the length of the third antennal joint it is similar to *A. tenebrioides* Erichs., it differs from that species in being strongly pilose, and in having its elytral intervals uninterrupted. The third antennal joint is not,

* These Proceedings, 1891, p.534.

† Trans. Ent. Soc. Lond. Part ii. p.403.

‡ These Proceedings, 1898.

however, quite so long as Mr. Lea's description warrants; when measured by an enlarged tracing it is about equal to the combined fourth and fifth, and less than half the sixth joints.

A. regulare Lea, while approaching *A. brevicorne* Blessig, is, I think, a good species, from its constant parallel form; but so far as colour goes, Blessig records his species as varying from metallic green to black.

A. minutum Lea = *Brycopia minuta* Lea, a fact noted by me.*

To the above I added five species in 1905, and three more in 1906, † *A. helmsi*, *A. reticulatum*, *A. violaceum*, *A. minor*, *A. globulosum*, *A. caeruleum*, *A. nitidum* and *A. punctum*.

A. helmsi Carter, is the same species as that labelled with an MS. name in the Hope Coll.; as also in the Bates Coll. of the British Museum. The original specimens came from the Macleay River, but I have since taken it at Bulladelah, near Port Stephens. It has been long in the Macleay Museum unnamed.

A. reticulatum Carter.—I took the type-specimens at Kurrajong, but have since met with it on Mount Irvine, Blue Mountains.

A. minor and *A. globulosum* have already been referred to *Brycopia* by me. ‡ Mr. Ferguson has taken *B. globulosa* lately at North Sydney near Middle Harbour; and I have taken it at Waterfall, N. S. W.

A. punctum Carter, has been shown to be synonymous with *A. geminatum* Pasc.

To these I append below the descriptions of seven more—*A. barbatum*, *A. hackeri*, *A. canaliculatum*, *A. pestiferum*, *A. bicolor*, *A. subdepressum* and *A. rotundum*.

In the Bates Coll. I also noted the following species:—

A specimen labelled with an MS. name of Bates', is probably *A. victorice* Blackb., or *A. pustulosum* Blackb., but at the time I was in doubt as to the exact points of difference between these species.

A specimen bearing an MS. name of Bates' is probably *A. lindense* Blackb.

* These Proceedings, 1905, p.181.

† These Proceedings, 1905, p.181; and 1906, p.259.

‡ These Proceedings, 1906, p.259.

To sum up, we have eighty described species. Of these, *three* are unknown to me—*A. punctipenne* Boisd., *A. rugicolle* Boisd., and *A. carinatum* Blanch.

Ten have been referred to other genera, as follows:—*A. parallelum* Germ., *A. geniculatum* Haag-Rut., *A. congestum* Pasc., *A. repandum* Pasc., to *Seirotana*; *A. monilicorne* Macl., *A. parvulum* Macl., *A. minutum* Lea, *A. globulosum* Carter, *A. minor* Carter, to *Brycopia*; and *A. panageicolle* Macl., to *Dystalica*.

And the following are considered as synonyms or varieties:—*A. porcatum* Fabr. = *A. caraboides* Kirby.

A. licinoides Kirby = *A. cisteloides* Erichs. = *A. helopioides* Boisd.

A. calosomoides Kirby = *A. geniale* Pasc.(?) = *A. harpaloides* Boisd.

A. abbreviatum Boisd. = *A. impressum* Blanch. = *A. latum* Pasc.(var.)

A. virescens Boisd.(?) = *A. brevicorne* Blessig = *A. neophyta* Pasc.

A. angulicolle Casteln = *A. succisum* Pasc.

A. plicigerum Pasc. = *A. rugosicolle* Macl.(var.).

A. striatum Pasc. = *A. viridipenne* Macl.(var.).

A. geminatum Pasc. = *A. punctum* Cav.

The first mentioned have the claim to precedence, except in the case of the doubtful *A. virescens* Boisd.

This brings the present number of the species to fifty-four, of which the following table will afford some guide.

Tabulation of Species.

(N.B.—Size large means larger than 16 mm., medium means from 12-16 mm., small means less than 12 mm.).

Section i. Intercoxal process split in front and more or less truncate: Elytra seriate-punctate, not striate; intervals flat or slightly elevated. Third joint of antennæ about equal in length to that of the fourth and fifth combined.

A. Not or very little pilose.

Size large.

Colour bronze.

1. Pronotum finely punctate, elytral punctures large, elongate, and nearly continuous..... *A. auratum* Pasc.

Size medium.

- Pronotum longitudinally rugose, elytral punctures more distant.... *A. plicigerum* Pasc.
var. *rugosicolle* Macl.

3. Pronotum with thickened edge, elytra with series of round foveæ and small punctures..... *A. lindense* Blackb.
4. Sides of pronotum angulate; intercoxal process without carinate edge..... *A. angulatum* Blackb.
5. Narrower than preceding; intercoxal process with carinate edge..... *A. angulicolle* Casteln.
Colour black.
6. Elytral punctures small, with few larger punctures.....
A. æquale Blackb.

Size small.

Colour dark bronze.

7. Edge of pronotum thickened, margins explanate. Elytra with large and small punctures irregularly arranged in series..... *A. vicarium* Pasc.
8. Discolorous. Head and pronotum shining black, elytra dark bronze, pronotum nearly smooth..... *A. scyriticum* Pasc.
9. Brilliant bronze, shining..... *A. nitidum* Carter.
- B. Strongly pilose.

Size large.

Colour greeny-bronze.

10. Hind angles of pronotum defined and rectangular; elytra with alternate intervals raised..... *A. hackeri*, n.sp.
Size medium.
Colour bronze.
11. Disc of pronotum with large round punctures, sides roundly angulate in middle..... *A. pilosum* Pasc.
Colour darker than 11.
12. Disc-punctures tending to confluence, sides less angulate.
A. scutellare Pasc.

Section ii. Intercoxal process marginal, and more or less rounded.

Subsection A. Third joint of antennæ longer than fourth and fifth combined, intervals of elytra elevated.

a. Intervals of elytra regular (not interrupted).

Size large.

Colour black.

13. Elytra sulcate-punctate and sides subparallel.....
A. occidentale Blackb.
14. Elytra sulcate..... *A. striatum* Pasc.
var. colour greenish..... *A. viridipenne* MacL.

Size medium.

15. Colour bronze..... *A. simplex* Blackb.

Size small.

Colour bronze with violet reflections.

16. Elytral series minutely punctate..... *A. violaceum* Carter.
Pilose.
17. Elytral series punctate..... *A. heterodoxum* Lea.
β. Intervals of elytra more or less interrupted.
Size medium.
Colour black or greenish.
18. Elytral intervals near suture generally interrupted,.....
A. porcatum Fabr.
A. caraboides Kirby.
Colour green, subnitid.
19. All elytral intervals interrupted..... *A. augurale* Pasc.
20. More nitid than 18.. *A. aerarium* Pasc.
Colour dark bronze, prothorax sometimes greenish.
21. Elytral intervals interrupted only on sides and apex.....
A. similitum Germ.
22. Larger and more convex; pronotum more widely rounded
and abruptly contracted at base..... *A. obesum* Pasc.
23. Narrower, more elongate and depressed than 21, third
joint of antennæ very long..... *A. tenebrioides* Erichs.
Colour blue-black.
24. Elytra impunctate..... *A. tropicum* Blackb.
Size small.
Colour blue.
25. Elytral intervals interrupted only near apex... *A. coeruleum* Carter.
- Subsection B. Third joint of antennæ equal in length to fourth and fifth
combined.
- γ Intervals of elytra raised and more or less interrupted.
Not pilose.
Colour black, nitid.
26. Size medium..... *A. capitatum* Lea.
Size smaller.
Colour black, fuscous.
27. Foliate sides of pronotum reflexed, elytral intervals
reticulate..... *A. reticulatum* Carter.
Pilose.
Colour blue-black.
28. Form somewhat square, pronotum rugosely punctate.....
A. barbatum, n.sp.
- δ. Intervals of elytra not raised, elytra seriate-punctate.
29. *A. geminatum* Pasc.
A. punctum Carter.

Subsection C. Third joint of antennæ less than fourth and fifth combined; intervals of elytra flat or slightly convex, never interrupted, striate-punctate. Posterior angles of prothorax generally obtuse, little defined or obsolete.

Colour bronze.

30. Size large, punctures in striæ small, striæ indistinct.....
A. helmsi Carter.
31. Size smaller, punctures in striæ large, striæ distinct.....
A. alpicola Blackb.
32. Size medium, broadly ovate, punctures in striæ small and close.....
A. calosomoides Kirby.
A. harpaloides Boisd.
(?)*A. geniale* Pasc.
33. Bicolourous. Flatter, narrower, more elongate than preceding.
A. bicolor, n.sp.

Colour bronze.

34. Convex; pronotum nearly smooth, with hind angles obsolete, large and small punctures in striæ; antennæ of male long.....
A. convexiusculum Macl.
35. Tarsi red; hind angles of pronotum distinct, elytral striæ irregularly punctate, punctures varying in size and distance.....
A. licinoides Kirby.
A. cisteloides Erichs.
36. Antennæ longer than preceding, hind angles of pronotum produced.....
A. ancilla Pasc.
37. Elongate-ovate; pronotum nearly smooth; shoulders obsolete; punctures in striæ minute and close.....
A. steropoides Pasc.
38. Form like 37, colour pitchy brown, nitid; striæ broken.....
A. ruptum Pasc.

Colour brilliant bronze, nitid.

39. Intervals quite flat.....
A. ellipticum Blackb.
Size small.
40. Form like *A. calosomoides*, but narrower and coppery; pronotum nearly smooth, punctures in striæ unequal.....
A. reductum Pasc.

Colour dark bronze.

41. Very convex, hind angles obsolete.....
A. rotundum, n.sp.
Elytra pustulose.

Colour dark bronze.

42. Pronotum coarsely rugose, hind angles rectangular.....
A. pustulosum Blackb.
43. Pronotum less rugose, hind angles widely obtuse.....
A. victoriæ Blackb.

44. Size smaller, pronotum canaliculate.....*A. canaliculatum* Carter.
Colour lighter.
45. Prothorax subangulate.....*A. pestiferum*, n.sp.
Colour violet-bronze.
46. Form depressed and elongate.....*A. subdepressum*, n.sp.
- Subsection D. Antennæ shorter, generally not reaching beyond base of prothorax in the female; size smaller; third joint of antennæ less than fourth and fifth combined; elytra striate-punctate; intervals flat.
Colour bronze.
47. Short broad form, intervals of elytra with regular shallow impressions.....*A. abbreviatum* Boisd.
A. impressum Blanch.
Var. more robust, prothorax more convex.....*A. latum* Pasc.
Colour dark bronze.
48. More slender; prothorax evenly rounded at sides, with rounded hind angles; elytral punctures regular.....
A. brevicorne Blessig.
A. neophyta Pasc.
?*A. virescens* Boisd.
Colour black.
49. Elytra more parallel.....*A. regulare* Lea.
50. More coarsely punctate than 48, with elytral intervals more convex.....*A. inconspicuum* Blackb.
Colour black or pitchy brown.
51. Size small, base of pronotum obliquely foveate.....
A. tasmanicum Champ.
Colour bronze.
52. Form narrow, sides of prothorax subparallel, disc smooth...
A. commodum Pasc.
53. Near 51, with elytral intervals nodulose... ..*A. nodulosum* Champ.
54. Antennæ subelavate, elytra subparallel and glossy.....
A. orphana Pasc.

ADELIUM BARBATUM, n.sp.

(Plate iii., fig.1.)

Truncate-ovate, moderately convex, shining; black with a bluish tinge, antennæ and tarsi piceous, abdomen black; upper surface and legs clothed with short upright black hairs.

Head: labrum round, salient and hirsute; epistoma and front densely and rugosely punctate. Eyes large. Antennæ stout and moderately long, third joint equal to fourth and fifth jointly.

Prothorax transverse, half as wide again as long, apex emarginate, anterior angles widely acute and prominent, extending to the eyes; sides widely rounded, widest behind middle, then sinuately narrowed at posterior angles, these turned downwards and outwards forming a subrectangular tooth. Base truncate. Disc densely coarsely rugosely punctate, punctures tending to coalesce and to become striolate on the foliaceous margin (this margin concave and reflexed). The whole pronotum concave and reflexed on the sides. *Scutellum* triangular with apex raised, punctate. *Elytra* wider at base than prothorax at widest; convex, with shoulders round and subrectangular; sides slightly bulging about half-way, apex bluntly acute. Interruptedly striate-punctate, striæ reticulated by transverse lines, forming series of rectangular foveæ, each filled with coarse punctures. Intervals raised, crenate and shining, becoming more interrupted towards the sides and apex (as in *A. porcatum* Fabr.), mere lines of pustules towards apex. Epipleuræ, last two segments of abdomen and legs closely punctate, the rest of abdomen with a few much finer punctures. Fore and intermediate tibiæ slightly curved and thickened at apex, hind tibiæ straight. Whole legs densely pilose. *Dimensions*—♂ 12.5 × 5 mm.; ♀ 14 × 6 mm.

Loc.—Endeavour River, Dawson River, Port Denison, Q. (collected by Mr. G. Masters).

The above insect is unnamed in the Macleay Collection, specimens of which have been courteously supplied me by Mr. Masters. While belonging to the *A. porcatum* and *A. augurale* group, it is easily distinguished from these by its smaller size, different colour, and its pilose clothing, which is thickest on the head and pronotum, and more thinly distributed on the elytra. In size and facies it approaches *A. cæruleum* mihi, from which species it differs widely in colour and its elytral sculpture. In its lateral prothoracic foliation it resembles *A. reticulatum* mihi. The pile is much shorter than in *A. pilosum* Pasc., to which insect it otherwise bears little resemblance.

From *A. tropicum* Blackb., it evidently differs in size and punctate elytra; also of that species Mr. Blackburn says,

“third joint of antennæ much longer than the fourth and fifth,” whereas in *A. barbatum* it is just equal to those.

A. barbatum is the same species as that labelled with an MS. name in the Bates Coll. A narrower form, also labelled with an MS. name of Bates', I have from the Dawson River, Queensland. This differs from *A. barbatum* in its more angulate-sided prothorax and less pilose clothing. Having only one imperfect specimen I am unwilling at present to describe it.

ADELIUM HACKERI, n.sp.

(Plate iii., fig.2.)

Very broad, subovate, moderately convex, dark coppery-bronze, obscurely shining, slightly pilose; antennæ and tarsi fuscous-brown, with the usual lighter-coloured tomentum on the under-side of tarsi.

Head: labrum trapezoidal and prominent, epistoma closely, and front rugosely punctate; at each angle formed by the front with the epistomal ridge is a seta bearing a long hair. Eyes large and widely separate. Antennæ stout and short, not reaching the base of prothorax when set back; third joint as long as the fourth, fifth, and half the sixth jointly; joints 3-10 subovate. *Prothorax* cordate, half as wide again as long, strongly emarginate anteriorly, obtusely pointed anterior angles reaching to the eyes, apex bisinuate, sides widely rounded to the greatest width behind the middle, and crenate on the border (which is raised and thickened near the front angles), then sinuately contracting near the base to meet the prominent subrectangular hind angles. Base truncate. Disc densely rugose, with rugosity generally longitudinal, except on the foliaceous margins, where it is transversely striolate. Thinly pilose with short, upright, black hairs. *Scutellum* large, curvilinear-triangular, with strongly rounded apex, punctate on sides. *Elytra* truncate-ovate, convex, slightly wider (by measurement, though not visibly) than prothorax at its widest; shoulders widely rounded, sides subparallel for half their length, contracting abruptly near the apex.

Interruptedly striate-punctate, the ten striæ on each elytron consisting of long foveæ of varying lengths separated by cross bars on the same plane as the intervals. Alternate intervals, 1st, 3rd, 5th, 7th, sharply raised, having a triangular cross-section, the 2nd, 4th, 6th and 8th having a rounded surface. Basal portion of elytra slightly pilose, as in the prothorax. Epipleuræ wide and coarsely punctate, the legs and last two segments of abdomen finely punctate. On each segment of abdomen are a few scattered setæ, each bearing a long hair, the last segment containing from eight to ten such setæ. Body beneath black and shining. *Legs*: intermediate tibiæ slightly curved, other tibiæ straight. *Dimensions* 17 × 8 mm.

Loc.—Wolfram Camp, N.W. of Cairns, Q. (collected by Mr. H. Hacker).

I have dedicated this species to Mr. Hacker, who has kindly presented me with one specimen. It belongs to the *A. plicigerum* Pasc., and *A. rugosicolle* Macl., group in its elytral sculpture and general facies, but differs from both in its pronounced hind angles and crenate border to prothorax, in its pilose covering, and in its wider and more convex form. It is readily distinguished by its great width as compared with its length. From *A. auratum* Pasc., it differs more widely in its rugose pronotum, and deeper elytral sculpture *inter alia*.

ADELIUM CANALICULATUM, n.sp.

(Plate iii., fig.4.)

Oval, moderately convex, dark bronze, shining; palpi, antennæ and tarsi pitchy-brown.

Head flat, with epistomal ridge sharply defined by arcuate groove; finely but sparingly punctured on front, more densely punctured on epistoma. Eyes very large and widely elliptic. Antennæ rather long in the male, with almost linear joints, gradually thickened towards the apex, third joint slightly shorter than fourth and fifth combined, apical joint a little longer and stouter than the tenth. *Prothorax* about one-third broader than

long, truncate in front and behind, anterior angles slightly produced and obtuse, rather narrower at base than at apex, sides widely rounded with foliaceous margins having a narrow raised shining border and slightly arcuate towards anterior and posterior angles, the latter widely obtuse but defined. Disc and sides coarsely and rather irregularly punctate with a few larger depressions. Central channel shallow but distinct, not extending to apical border. *Elytra* about two and one-third times as long as the prothorax, and wider than it, shoulders rather squarely rounded, ovate; sides of male little rounded, of female more widely expanded, and sharply contracting to a somewhat pointed apex; striate-punctate, with ten lines of punctures on each elytron, the last on the side; punctures rather small, close and regular in size and distance; intervals flat or very slightly convex, but towards sides and apex having lines of thin, more or less elongate shining pustules; beneath black, shining and finely punctured; intercoxal process margined and truncate, anterior tibiae very slightly curved, other tibiae straight; anterior tarsi of male with four basal joints widened in the male. *Dimensions*—♂ 10.5 × 4.5 mm.; ♀ 11 × 5 mm.

Loc.—Botany Bay and Kogarah, near Sydney.

This species comes under Sect. ii.C in my classification, and is nearest to *A. pustulosum* Blackb., from which it differs in (1) smaller size, (2) narrower (in proportion to elytra) and smoother prothorax, (3) prothorax having central canal, (4) finer and more regular punctures in elytral striæ, (5) more ovate shape of elytra, and (6) darker colour. I have six specimens before me, as well as a cotype of Mr. Blackburn's *A. pustulosum*, and the above are only the most easily defined of the many differences that exist between these two species. *A. pustulosum* is altogether a more robust and coarsely sculptured insect, while the channelled prothorax is a rare character in this genus that readily distinguishes this species. From *A. victoriae* Blackb., it differs in size, colour, canaliculate pronotum, finer sculpture, *inter alia*.

ADELIUM PESTIFERUM, n.sp.

(Plate iii., fig.6.)

Narrow, elliptic, coppery-bronze, shining; oral organs, tarsi and apical joints of antennæ reddish.

Head: labrum narrow, prominent, epistomal ridge pronounced, frontal disc very concave, the whole coarsely and densely punctured. Eyes large and widely elliptic. Antennæ of male long, with third joint a little less than fourth and fifth combined. *Prothorax* broader than long (in the proportion of 7 : 10), sinuate at apex, with anterior angles well advanced but obtuse, sides widely rounded to meet the subrectangular and well defined hind angles. Base truncate. Disc convex, separated from foliaceous sides by a short, deep, curved sulcus, whose continuation forward is indicated by a second small fovea near front angle. Strongly, but not rugosely punctured, with slightly raised vermiculate lines irregularly placed. Medial line is indicated by slight depression. (In one specimen this depression is only shown near base). *Elytra* oval-elliptic, moderately convex, shoulders rounded. Widest in anterior half, then gradually tapering (as in *A. ellipticum* Blackb.), towards apex. Punctate-striate, with intervals strongly pustulated with shining nodules. Abdomen and legs black, shining; posterior intercoxal process rounded, truncate and entire. Anterior femora slightly curved, other femora straight. *Dimensions* 13 × 5 mm.

Loc.—Illawarra, N.S.W., Bulli to Nowra (collected by E. Ferguson and the author).

This species belongs to the class of *A. pustulosum* Blackb., and *A. canaliculatum* Carter. From the former it is readily distinguished by its lighter and unicolorous bronze, by its pronounced hind angles to prothorax, and its more elongate-elliptic form; from the latter it is more strongly differentiated by the shape of prothorax (see Plate iii.), its larger size and brighter colour. It is the most markedly *pustulose* *Adelium* known to me, the side and apical portions being studded with shining nodules varying in shape from round to elongate, the anterior central intervals only being more or less smooth. The punctures in elytral striae

are unequal in size, those in the striæ nearest the suture being larger and deeper than in the striæ towards the sides.

ADELIMUM BICOLOR, n.sp.

(Plate iii., fig.5.)

Elongate rather flat; head and prothorax greenish-bronze, shining; elytra reddish-bronze; palpi, antennæ and tarsi reddish-brown.

Head rugosely punctate, epistomal ridge rounded and prominent. Eyes large and prominent. Antennæ of male moderately long, of female much shorter; third joint less than the fourth and fifth combined. *Prothorax* wider than long (3×5 mm.), with greatest width behind the middle, with anterior angles slightly produced forward and obtuse, truncate behind; sides widely rounded with foliaceous margins and raised border throughout; thicker on sides than in front and behind. Posterior angles obtuse but defined. Disc finely punctate, with some irregular larger depressions. Median canal faintly defined. *Elytra* a little wider than the prothorax and about three times as long (9×5.3 mm.), shoulders widely rounded, sides tapering towards apex; in female elytra more convex, wider and stouter. Striate-punctate, striæ with punctures large, regular and close; intervals smooth, very slightly convex, and without any sign of tuberculation towards apex. Abdomen and sternum black and shining, last segment of former finely punctate. Tarsi of male much wider than those of female. Intercoxal process entire and truncate. *Dimensions*—♂ 14×5.3 mm.; ♀ 14.5×6 mm.

Loc.—Mount Kosciusko.

This species comes under Subsection C of my classification, and is near the *A. calosomoides* Kirby, type, from which it is distinguished by colour and by its flatter and more elongate-ovate form, less transverse prothorax and larger punctures in elytral series. It is very common on Mount Kosciusko, above 4000 ft. altitude. Fresh specimens show the bicolouration to a marked degree, the bright bronze becoming darker with age. Distinguished from *A. simi'atum* group by its uninterrupted intervals.

ADELIUM SUBDEPRESSUM, n.sp.

(Plate iii., fig.3.)

Elongate-ovate, rather flat; bright purple-bronze, moderately shining; oral organs, antennæ and tarsi reddish-brown, beneath a darker bronze shining.

Head rather coarsely punctate, epistomal ridge sharply defined behind by arcuate groove. Antennæ elongate in the male, joints lineate, and only slightly thickened towards the apex, third joint about equal to fourth and fifth jointly. *Prothorax* nearly twice as broad as long, very little convex, and widely explanate, with greatest width behind the middle, moderately striate in front, truncate at base, narrower at base than at apex; sides widely rounded, scarcely sinuate near anterior angles, more abruptly converging at posterior angles, the former of these slightly produced and obtuse, the latter obsolete, a narrow raised border throughout strongly defined towards anterior angles, less perceptible elsewhere. Disc very lightly rugose, with shallow punctiform impressions. Central canal faintly impressed on middle portion. A few setigerous punctures on the explanate margins. *Elytra* about as wide as prothorax at widest and about two and a half times as long. Shoulders widely rounded and sharply margined. Disc somewhat flat and depressed at suture, striate-punctate, with ten rows of punctures on each elytron, the last two on the sides, the punctures large, transverse and close; intervals very slightly raised but strongly tuberculate towards sides and apex. Last segment of abdomen strongly punctured. Intercostal process margined and rounded. *Dimensions*—♂ 14.5 × 5.5 mm.; ♀ 16.5 × 7 mm.

Loc.—Bombala and Moruya, N. S. W.

I am indebted to Mr. Cheesman, of Moruya, for the three specimens I possess. I adopt the MS. name with which I found a similar insect labelled in the Bates Collection of the British Museum with other undescribed *Adelia*. It is easily recognised by the combination of bright bronze colouring and strongly tuberculate elytra and depressed form.

ADELIUM ROTUNDUM, n.sp.

(Plate iii., fig.7.)

Shortly ovate, dark bronze, sometimes greenish, shining, very convex. Tarsi, palpi and antennæ brown.

Head: front rugosely punctate; epistomal ridge prominent and strongly punctate, punctures large; labrum salient. Eyes large, prominent and coarsely faceted. Antennæ moderately stout and long and both they and the palpi pilose, third joint less than fourth and fifth combined. *Prothorax* convex, width twice the length, greatest width near base, much narrower in front; truncate at base and apex. Front angles widely obtuse and scarcely produced forward; sides strongly rounded and widened towards base, meeting the base in a circular curve without any indication of hind angles. Disc coarsely punctured, punctures large and separate. Two shallow impressed foveæ near base (in female only). Without distinct foliaceous margins, though their position is indicated by a more or less distinct ridge and sulcus, the sulcus never extending beyond half-way from the front. *Scutellum* triangular, with rounded apex, punctate. *Elytra* strongly convex and oval. In the male the width is about the same as the base of prothorax, in the female width is greater than that of prothorax. Disc with about ten striæ on each elytron; these closely punctate. Intervals scarcely raised and minutely punctate. Shoulders widely rounded; sides, in female, gently rounded, in male subparallel to near apex, then narrowing to a blunt apical point. Epipleuræ, femora and apical segment of abdomen finely punctate. Beneath a shining blue-black. *Dimensions*—♂ 10 × 4.5 mm.; ♀ 12 × 6 mm.

Loc.—Monaro, N. S. W. (near Jindabyne; collected by author).

This species is the most convex *Adelium* known to me, and can be readily recognised by this feature alone, combined with its peculiar prothorax. There is more than the usual sexual difference indicated by size, especially the width of female specimens.

CARDIOTHORAX.

Cardiothorax batesi Carter = *C. aericollis* Pasc.—I would take this, my earliest, opportunity to point out the above synonymy, of which I was made certain by a comparison of my type with Pascoe's in the British Museum. I was certainly misled by Bates' remark as to its being a mere colour-variety of *C. walckenaerii* Hope, whereas I pointed out in my diagnosis of *C. batesi* its several points of distinction from that species; the name *C. batesi* must therefore be sunk.

EXPLANATION OF PLATE iii.

Fig. 1.—*Adelium barbatum*.

Fig. 2.—*A. hackeri*.

Fig. 3.—*A. subdepressum*.

Fig. 4.—*A. canaliculatum*.

Fig. 5.—*A. bicolor*.

Fig. 6.—*A. pestiferum*.

Fig. 7.—*A. rotundum*.